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Alfalfa Leafcutting Bee Newsletter: Volume I, No. 5

WINTER COMMENTS, APHIDS AND MOTHS

As we all know, the growing season is over. Concerns and work related to bee management tend to focus on extracting cells from nesting materials, storage of cells and the marketing of bees. Rainfall, as a rule, was scarce across Eastern Montana this year and dryland agriculture suffered. Certain pest management problems of alfalfa seed crops in Montana were very different from those generally encountered in states west of the continental divide. These were more specifically related to spotted alfalfa aphids, blister beetles, grasshoppers, soil moisture conditions, and the surprising effectiveness of demeton (systox) and trichlorfon (Dylox) on aphid and lygus populations. The alfalfa weevil seemed to be the most serious pest of alfalfa

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seed in Montana this year. Most growers found chemical treatment necessary for its control while a limited number of individuals used light tillage prior to spring plant growth effectively. Beneficial insect populations (damsel bugs, big-eyed bugs, lacewing larvae, lady beetle larvae, wild pollinators, etc.) often helped considerably in controlling pest insects and increasing seed yields. Certain determined individuals used pesticides only as a last resort and contributed significantly to changes in this writer's concepts of the fundamentals of alfalfa seed production and pest control. Factors involving subjects such as economic threshold levels, resistant plant varieties, resistance of pests to pesticides and even chalkbrood disease in bees are unique to Montana. It is hard to generalize and apply materials and methods for pest control that have been generated from seed producing areas west of the divide so one must be cautious in this country which is relatively new to alfalfa seed pollinated by leafcutting bees.

This year, for the first time, spotted alfalfa aphids reached economic levels and were recorded as occurring on alfalfa seed crops in the state. Most seed growers in the state presently treat only for pea aphids. Could other types of aphids, pests of alfalfa, also, be present in the state and if so, what are their distributions and levels of incidence? These things tend to change with time and affect timing and dosage levels as well as types of pesticides used. Checkered flower beetles which were discussed in the last newsletter are the most serious predator of leafcutting bees in many states and are established in parts of Montana. How we deal with these situations now directly affects the state's seed industry in the future.

One of the most common nest destroying pests during loose cell storage and incubation in Montana is the indian meal moth which has been a common grain infesting and honeycomb infesting moth in the Pacific Northwest for years. Adults have a pale gray body and a wingspan of nearly 3/4 inch. The outer 2/3 of the forewings are dark red, brown or coppery while the inner portion of the wings are whitish gray. A female can lay 100-300 eggs individually or in groups generally on the surface of laminates or incubation trays. Larvae are dirty white or pinkish white and about 1/2 inch long when mature. They may tunnel through bee cells, feeding on pollen, nectar and bee larvae in the process. Considerable webbing is found in and around cells that the larvae have invaded. Mature larvae spin a silken cacoon and change to a light brown pupae usually found in cracks and crevices and sometimes in with loose cells. The life cycle may take 6 to 8 weeks and breeding can be continuous when bees are not placed in cold storage. Indian meal moth infestations rarely exceed 3% in most seed growing areas but on occasion have caused serious damage to loose cells in incubation rooms. The best control measure is tumbling or using the air stream of a seed cleaning machine during or after extraction. Also, cell storage should be maintained below 40°F.

A booklet entitled "A Compendium of Alfalfa Diseases" published by the American Phytopathological Society may be a reference of value to those concerned with identifying alfalfa diseases. An identification guide and index are included to assist with field identification. This is a 65 page paperback booklet with 70 black and white illustrations as well as 48 color photographs of a variety of alfalfa plant diseases. It can be obtained from:

The American Phytopathological Society
3340 Pilot Knob Road
St. Paul, Minnesota 55121

The cost is $17.00 and includes shipping.

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